Biodiversity Data Journal 2: e1162
doi: 10.3897/BDJ.2.e1162

Taxonomic paper

A new species of *Orthosiphon* (Lamiaceae) from Angola

Alan Paton †

† Herbarium, Royal Botanic Gardens, Kew, London, United Kingdom

Corresponding author: Alan Paton (a.paton@kew.org)

Academic editor: Dimitrios Koureas

Received: 21 Jun 2014 | Accepted: 23 Jul 2014 | Published: 30 Jul 2014

Citation: Paton A (2014) A new species of *Orthosiphon* (Lamiaceae) from Angola. Biodiversity Data Journal 2: e1162. doi: 10.3897/BDJ.2.e1162

Abstract

A new species of *Orthosiphon* (Lamiaceae), *O. cinereus* A.J.Paton, sp. nov. from Angola is described and the eight species of *Orthosiphon* in Angola listed with reference to previous accounts. *Orthosiphon newtonii* Briq. is reduced to the synonymy of *Endostemon tubulascens* (Briq.) M.Ashby.

Keywords

Endemic species, southern tropical Africa

Introduction

Orthosiphon is a genus of around 40 species found throughout the tropical old world and with one species in Colombia (Harley and Paton 2012). During the preparation of the account for the Lamiaceae for Flora Zambesiaca (Paton et al. 2013), a new species of *Orthosiphon* endemic to Angola was discovered from herbarium material. Flora Zambesiaca covers Mozambique, Malawi, Zambia, Zimbabwe, Botswana and the Caprivi Strip of Namibia, and five species of *Orthosiphon* are reported from this area of which four, *O. schimperi* Benth., *O. thymiflorus* (Roth) Sleesen, *O. rufinervis* G.Taylor, *O. nigri-*

© Paton A. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

punctatus G.Taylor occur in Angola. A checklist of Angolan species was provided by Figueiredo and Smith (2008) which lists two further endemic species: *O. cuanzae* (I.M.Johnst.) A.J.Paton and *O. violaceus* Briq. In addition *O. pascuensis* G. Taylor should be recognized at species level, rather than as a synonym of *O. rubicundus* (D.Don) Benth *sensu* Figueiredo and Smith (2008). With these seven species and the new species described here, there are eight species recognized in Angola. Figueiredo and Smith (2008) report three species from Angola which are not recognized here: *O. rubicundus* (D.Don) Benth. is an Asian species similar in morphology to *O. schimperi*; *O. parvifolius* Vatke is only found in East Africa. *O. newtonii* Briq is a synonym of *Endostemon tubulascens* (M.Ashby) Briq. and this new synonymy is formally recorded below.

Taxon treatments

Orthosiphon cinereus A.J.Paton, sp. nov.

- ID: K001057489 (Herbarium catalogue, KEW) http://specimens.kew.org/herbarium/K001057489
- IPNI urn:lsid:ipni.org:names:77139693-1

Materials

Holotype:

a. country: Angola; stateProvince: Huila; verbatimLocality: Tchivinguiro, picada da Banja; year: 1961; month: 12; day: 21; recordedBy: G. Barbosa; F.Moreno 9730; collectionID: urn:lsid:biocol.org:col:15867; institutionCode: K; source: http://specimens.kew.org/herbarium/K001057489

Isotypes:

a. country: Angola; stateProvince: Huila; verbatimLocality: Tchivinguiro, picada da Banja; year: 1961; month: 12; day: 21; recordedBy: G. Barbosa; F.Moreno 9730; collectionID: urn:lsid:biocol.org:col:14498; institutionCode: COI

b. country: Angola; stateProvince: Huila; verbatimLocality: Tchivinguiro, picada da Banja; year: 1961; month: 12; day: 21; recordedBy: G. Barbosa; F.Moreno 9730; collectionID: urn:lsid:biocol.org:col:15078; institutionCode: LISC

Other materials:

a. country: Angola; stateProvince: Huila; verbatimLocality: Serra do Bruco, pres de Sá da Bandeira; verbatimElevation: 1610 m; verbatimLatitude: 15°09'S; verbatimLongitude: 13° 16'E; year: 1972; month: 2; day: 21; recordedBy: R. Deschamps; F. Murta; M. Da Silva 1183; collectionID: urn:lsid:biocol.org:col:15078; institutionCode: LISC

b. country: Angola; stateProvince: Huila; verbatimLocality: Without locality; recordedBy: Centro de Botânica da Junta de Investigações do Ultramar, ex Herbário Missão de Huilla 313; collectionID: urn:lsid:biocol.org:col:15078; institutionCode: LISC

c. country: Angola; verbatimLocality: Without Locality; year: 1883; month: 9; recordedBy: H. H. Johnston s.n.; institutionCode: K; collectionCode: urn:lsid:biocol.org:col:15867; source: http://specimens.kew.org/herbarium/K000938398

Description

Perennial subshrub 1.2–2 m tall. Stems quadrangular, pubescent, more densely so at nodes with eglandular, spreading or retrorse hairs and reddish sessile glands; inflorescence axis also with shorter glandular hairs; young shoots tomentose. Leaves petiolate; blades paler beneath, ovate, 50–120 mm long; 25–40 mm broad, shallowly serrate, base rounded to cuneate, sometimes asymmetric, pubescent with red sessile glands, grey tomentose beneath when young; petioles 8–15 mm long. Inflorescence terminal, branched at base, lax; verticils 2–6-flowered, 5–10 mm apart; bracts inconspicuous, soon deciduous; pedicels 4–5 mm long, spreading, forming a right angle with the calyx. Calyx deflexed, 4 mm long at anthesis, pubescent with reddish sessile glands; fruiting calyx 7 mm long; posterior lip erect; lateral lobes of anterior lip deltoid with posterior margin extended towards posterior lip; median lobes of anterior lip lanceolate, subulate at apex; longer than the lateral lobes. Corolla usually deflexed, pinkish, 10 mm long; tube 7 mm long, straight, dilating slightly towards throat; anterior lip cucullate enclosing stamens. Stamens 4, declinate, enclosed within the anterior lip; posterior pair inappendiculate, glabrous, adnate to the corolla above the midpoint of the tube; anterior pair glabrous, adnating nearer throat, anthers dorsifixed, synthecous. Disk 4-lobed, with anterior lobe larger. Ovary glabrous, deeply 4-lobed; style gynobasic, capitate, branches rounded, equal, adpressed. Nutlets brown, obovate with a small basal scar, minutely tuberculed, producing a small amount of mucilage when wet. Fig. 1.

Figure 1.

Holotype of *Orthosiphon cinereus* A.J.Paton.

Diagnosis

Differs from all other African species of *Orthosiphon* except *O. thymiflorus* (Roth) Sleesen in being a shrub rather than a suffrutex sprouting annual stems, or an annual herb. Differs from *O. thymiflorus* in being larger and more erect, 1.2–2 m tall, rather

than straggling to 0.2–1.2 m tall; and with longer larger discolorous leaves, 50–120 mm long, and greyish tomentose beneath, rather than 10–40 mm long and sparsely pubescent. The flowers of *O. cinereus* are also more strongly deflexed.

Etymology

Named after the grey tomentose indumentum of the stems and abaxial leaf surfaces.

Distribution

Endemic to Angola.

Ecology

Damp area in forest; 1610–1700 m, alt.

Conservation

No recent gatherings of this species have been collected and the specimens mostly lack precise localities. This species is best viewed as data deficient.

Figure 2.

Orthosiphon thymiflorus. Angola, 30 miles inland from Ambriz, Monteiro, s.n., June 1843. http://specimens.kew.org/herbarium/K000347209. Holotype of *Orthosiphon longipes* Baker.

Taxon discussion

This is a distinctive, easily recognized species, differing from the most large-leaved specimens of *O. thymiflorus* which lack the discolous, greyish leaf indumentum and have spreading rather than deflexed flowers. *O. thymiflorus* is found throughout tropical Africa and the large leaf size seen in specimens similar to the type of *O. longipes* Baker

represent an extreme of the variation (Fig. 2). *O. longipes* was placed in synonymy of *O. thymiflorus* in Paton et al. (2013). The shrubby habit is seen in Asia and Madagascar *Orthosiphon*, *O. aristatus* (Blume) Miq. and *O. adenocaulis A.J.Paton & Hedge* being respective examples and in *O. americanus* Harley & A.J.Paton from Colombia, the only New World member of the genus. However, the species in Africa are mainly suffrutices with annual stems being produced from woody rootstocks. The little habitat information available from the specimens of *O. cinereus* suggests that the species occupies a wetter forest than the seasonally dry forest habitat of *O. thymiflorus* and other Angolan species.

Endostemon tubulascens (Briq.) M.Ashby

Nomenclature

Endostemon tubulascens (Briq.) M.Ashby, J. Bot. 74: 127 (1936).

Orthosiphon tubulascens Briq., Bot. Jahrb. Syst. 19: 174 (1894).

Orthosiphon newtonii Briq., Bull. Herb. Boissier, sér. 2, 3: 990 (1903). **Synon. nov.** Holotype. Angola, Mossamedes, Humpata, Feb. 1883, F.X.O. Newton 108. http://www.herbarien.uzh.ch/static/database/details_en.php?&spTypFlg=%&spBarCod=Z-000018972&spHer=%

Materials

Isotypes:

a. country: Angola; stateProvince: Huilla; verbatimLocality: Morro de Lopollo; year: 1860; verbatimEventDate: Jan to Feb; individualCount: 5492; recordedBy: F. Welwitsch; collectionID: urn:lsid:biocol.org:col:15867; institutionCode: K; source: http://specimens.kew.org/herbarium/K000347216

b. country: Angola; stateProvince: Huilla; verbatimLocality: Morro de Lopollo; year: 1860; verbatimEventDate: Jan to Feb; individualCount: 5492; recordedBy: F. Welwitsch; collectionID: urn:lsid:biocol.org:col:15660; institutionCode: BM

Acknowledgements

This is the first publication to use stable and persistent identifiers to cite individual specimens from Kew herbarium. This work was facilitated by the pro-iBiosphere project (http://www.pro-ibiosphere.eu/) funded by the EU Framework Programme (FP7/2007-2013) under grant agreement №312848.

References

- Figueiredo E, Smith GF (2008) Plants of Angola/Plantas de Angola. Strelitzia 22. South African National Biodiversity Institute, Pretoria, 279 pp. [ISBN 978-1-919976-45-7]

- Harley RM, Paton AJ (2012) *Orthosiphon americanus* (Lamiaceae), a new species in Colombia, and a genus newly recorded for the Neotropics. Kew Bulletin 67: 45-48. [In English]. DOI: 10.1007/s12225-012-9348-6
- Paton A, Bramley G, Ryding O, Polhill RM, Harvey YB, Iwarsson M, Otieno DF, Balkwill K, Phillipson PB, Harley RM, Willis F (2013) Lamiaceae. In: Timberlake JR, Martins ES (Eds) Flora Zambesiaca. 8 part 8. Royal Botanic Gardens, Kew, Kew, 346 pp. [ISBN 978-1-84246-196-9].